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and the crystalline schists. This is followed by an account of the effects of dynamic metamorphism upon the minerals and structures of rocks. Very little space is devoted to the petrographical description of the various kinds of crystalline schists, which are grouped under the heads of *crystalline schists*, *gneisses*, *granulites* and *eclogites*. The basis of classification is structure. The book shows careful preparation, and although the reviewer has taken exception to some features of it he would recommend it to all those beginning the study of petrology.

JOSEPH P. IDDINGS.

#### SCIENTIFIC JOURNALS.

THE AMERICAN JOURNAL OF SCIENCE,  
NOVEMBER.

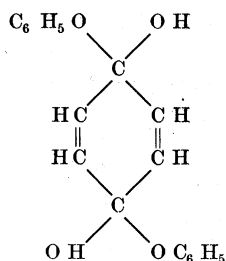
THE November number of the *American Journal of Science* opens with an article by A. De Forest Palmer, Jr., of Brown University, giving the results of measurements made at Baltimore in 1893 upon the D<sub>3</sub> helium line in the solar spectrum. The observations were made with a large telescope spectrometer with a plane speculum metal grating, the line in question being compared with the best standard lines in the field of view. Seventeen series of measurements were made, an equal number of observations being made on opposite points of the sun's limb to eliminate the effect of rotation. The average of the seventeen values obtained was  $5875.939 \pm .006$ . A paper by E. A. Hill discusses the new elements argon and helium with special reference to the question as to the atomicity of argon. It is argued that the observations thus far made are not conclusive as proving that it is monatomic; some suggestions are also made as to the relations between the elements named and other elements as shown in the periodic classification of Mendeléeff. Professor W. LeConte Stevens gives the remainder of his address delivered before Section B of the American Association upon 'Recent Progress in Optics;' the earlier part was published in the October number. Wells and Hurlburt describe a series of ammonium-cuprous double halogen salts. Other chemical articles are by Gooch and Evans upon the reduction of selenic acid by hydrochloric acid, and by Gooch and Scoville upon its reduction

by potassium bromide in acid solution. L. V. Pirsson describes some phonolitic rocks from the neighborhood of the Bear Paw Mountain in Montana; one of these contained large crystals of pseudo-leucite, resembling those of Brazil and Magnet Cove, Arkansas. S. L. Penfield and J. H. Pratt give the results of an investigation of a series of minerals of the triphylite-lithiophilite group  $(\text{Fe, Mn})\text{LiPO}_4$ , which show that the replacement of iron by manganese has a remarkable influence upon the optical properties. Two articles are given by O. C. Marsh, the first upon the Reptilia of Baptonodon Beds of the Rocky Mountain Jurassic; the second upon the restoration of some European Dinosaurs. Four plates accompany the latter paper, giving restoration of the genera: *Compsognathus*, *Scelidosaurus*, *Hypsilophodon*, *Iguanodon*. This paper was read before Section C of the British Association at the Ipswich meeting in September last. The concluding twenty pages of the number are devoted to abstracts, book notices, etc., in various departments of science.

AMERICAN CHEMICAL JOURNAL, OCTOBER.

THIS number of the Journal contains contributions from several laboratories and reviews of new books on chemistry. Two papers by White and Jones on the Sulphonphthaleïns contain results of work carried on in the laboratory of the Johns Hopkins University on this class of compounds. Four articles containing results of work in this line have already appeared. White prepared bromine and chlorine products of sulphonfluoresceïn, but found that the sulphonfluoresceïn itself could not be prepared by the action of resorcinol on orthosulphobenzoic acid, the product in this case containing four or six residues of resorcinol instead of two. Jones obtained similar results using the paramethylsulphonphthaleïn. Jackson and Grindley contribute the first of a series of papers upon the action of sodic alcoholates on chloranil. A number of substances were made belonging to a class which had not been very thoroughly investigated before and to which the authors give the name hemiacetals. The discovery of the hemiacetals of the quinones has led them to suggest a possible explanation of the constitution of quinhedrone and

related compounds. They would represent the structure of phenokinone, for example, by the following formula, in which the phenol is added to the carbonyl groups:



A number of derivatives of this class were made and studied and various lines of research mapped out for the future.

A. S. Miller describes experiments made to determine the results of the action of ammonia on ferric and ferrous chloride. He found that the ferric chloride formed unstable compounds with ammonia, the product formed at ordinary temperatures being  $\text{Fe Cl}_3.6 \text{ NH}_3$ . At  $100^\circ$  this becomes  $\text{Fe Cl}_3.4 \text{ NH}_3$  and dissociates when heated higher. The compound formed with ferrous chloride was  $\text{Fe Cl}_2.6 \text{ NH}_3$ . Mead and Kremers show that, when so-called 'nitrosopinene' is hydrolysed, carvacrol and not thymol is formed, and as the nitrosopinene is made from pinene we can pass from pinene to carvacrol. Wheeler contributes a preliminary paper on halogen addition products of the anilides. He has obtained bromine addition products of metanitroacetanilide which form substitution products by the loss of hydrobromic acid.

Noyes and Ellis have prepared diphenylbiphenyl synthetically by the action of sodium on brombiphenyl and shown it to be identical with the hydrocarbon benzerythrene, which is made from benzene by the action of heat. Reviews of several books are given, among them that of Cross and Bevan on Cellulose. A note on helium calls attention to its occurrence in many minerals and also in the free state, its properties, especially its low density and slight solubility, and the analogies in the spectra of helium and argon. J. ELLIOTT GILPIN.

PSYCHE, NOVEMBER.

MR. AND MRS. G. W. PECKHAM give an interesting account of the differences between

two wasps of the genus *Trypoxylon* in their habits of making and storing nests. H. G. Dyar describes the larva of *Harrisina coracina* found on the vine in New Mexico; and A. P. Morse describes the colors of *Enallagma pictum*, an agrionid, during life. There is also a review of the last part of Edwards' *Butterflies of North America* and a brief notice of the late Mr. Riley. A supplement contains descriptions of a new genus and several new species of New Mexican bees, with notes on their habits, and a notice of the early stages of *Doryphora lineolata*, both by T. D. A. Cockerell; and the description, with figure, of a new New Mexican *Thamnotetix*, by C. F. Baker.

#### NEW BOOKS.

*The Scientific Foundations of Analytical Chemistry.*

WILHELM OSTWALD. Translated by George M'Gowan. London and New York, Macmillan & Co. 1895. Pp. ix+207. \$1.60.

*Dynamics.* P. G. TAIT. London. Adam and Charles Black. New York, Macmillan & Co. 1895. Pp. xii+361. \$2.50.

*The Structure of Man.* By R. WIEDERSHEIM. Translated by H. and M. Bernard. London and New York, Macmillan & Co. 1895. Pp. x+227. \$2.60.

*An Introduction to the Study of Seaweeds.* London and New York, Macmillan & Co. 1895. Pp. xvi+271. \$1.75.

*Handbook of Grasses.* WILLIAM HUTCHINSON, London, Swan Sonnenschein & Co. New York, Macmillan & Co. 1895. Pp. 92. 75 cents.

*Elements of Plant Anatomy.* EMILY L. GREGORY. Boston and London, Ginn & Co. Pp. viii+148.

*Iowa Geological Survey, Vol. IV.* Third Annual Report, 1894. Des Moines, published for the Iowa Geological Survey. Pp. 461.

*On the Densities of Oxygen and Hydrogen and on the Ratio of their Atomic Weights.* EDWARD W. MORLEY. Washington, The Smithsonian Institution. 1895. 4° pp. xii.+117.

*Determinação das Posições Geographicas.* Pp. 57. *O clima do Rio de Janeiro.* Pp. 71. *Eclipses du soleil et occultations.* Pp. 54. L. CRULS. Rio de Janeiro, H. Lombaerts & C. 1894.